



DET NORSKE VERITAS

TYPE APPROVAL CERTIFICATE

CERTIFICATE NO. E-9994
This Certificate consists of 4 pages

This is to certify that the
Electric Motor
with type designation(s)
M3LP

Manufactured by
ABB Motors Oy,
Vaasa, Finland

is found to comply with
Det Norske Veritas' Rules for Classification of Ships, High Speed & Light Craft and Det Norske Veritas' Offshore Standards

Application
For installation in non hazardous area.

Enclosure class	IP55, 56, 65 & 66
Insulation class	F & H
Temp. class (°C)	45
Voltage (V)	220 - 690
Power (kW)	185 - 1350
Frequency (Hz)	50 - 60
Speed (RPM)	750 - 3600

Place and date
Høvik, 2010-03-04
for DET NORSKE VERITAS AS

Marit Laumann
Head of Section



This Certificate is valid until
2013-12-31

Nicolay Horn
Surveyor

Notice: This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid. The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.

If any person suffers loss or damage which is proved to have been caused by any negligent act or omission of Det Norske Veritas, then Det Norske Veritas shall pay compensation to such person for his proved direct loss or damage. However, the compensation shall not exceed an amount equal to ten times the fee charged for the service in question, provided that the maximum compensation shall never exceed USD 2 million. In this provision "Det Norske Veritas" shall mean the Foundation Det Norske Veritas as well as all its subsidiaries, directors, officers, employees, agents and any other acting on behalf of Det Norske Veritas.



Cert. No.: E-9994
 File No.: 821.20
 Job Id: 262.1-004717

Product description

Type M3LP, 3-phase squirrel cage induction motors acc. to IEC 60034, IEC frame of cast iron, frame sizes 355 up to 450.

Rated Voltage:	220 - 690
Rated Frequency:	50Hz, 60Hz
Nominal power:	185 - 1350 kW
Number of poles:	2, 4, 6 & 8
Duty type:	S1
Enclosure class:	IP55, 56, 65 & 66
Ambient air temp.:	45 deg. C
Insulation class:	F & H

Technical data for 440V and 60 Hz:

Motor	Type	Pole number	Output kW
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4-pole motors

M3LP	355	MLA	4	362
M3LP	355	MLB	4	400
M3LP	355	MLC	4	450
M3LP	355	MLD	4	500
M3LP	355	MLE	4	560
M3LP	355	LKA	4	630
M3LP	355	LKB	4	710
M3LP	400	LA	4	800
M3LP	400	LB	4	880
M3LP	400	LC	4	950
M3LP	450	LA	4	1100
M3LP	450	LB	4	1220
M3LP	450	LC	4	1350

6-pole motors

M3LP	355	MLA	6	280
M3LP	355	MLB	6	350
M3LP	355	MLC	6	400
M3LP	355	MLD	6	450
M3LP	355	LKA	6	500
M3LP	355	LKB	6	560
M3LP	400	LA	6	630
M3LP	400	LB	6	710
M3LP	400	LC	6	800



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Motor	Type	Pole number	Output kW
M3LP	400 LD	6	900
M3LP	450 LA	6	950
M3LP	450 LB	6	1020
M3LP	450 LC	6	1150

8-pole motors

M3LP	355 MLA	8	185
M3LP	355 MLB	8	230
M3LP	355 MLC	8	285
M3LP	355 LKA	8	362
M3LP	355 LKB	8	400
M3LP	400 LA	8	450
M3LP	400 LB	8	500
M3LP	400 LC	8	560
M3LP	450 LA	8	630
M3LP	450 LB	8	710
M3LP	450 LC	8	800
M3LP	450 LD	8	900

Application/Limitation

For installation in non hazardous area.

For installation on open deck Rules Pt.4, Ch.8, Sec.10 table B1 to be followed.

Type Approval documentation

ABB letter "MOTORS TYPES FOR TYPE APPROVAL CERTIFICATE APPLICATION", dated 2007-12-14.

Drawings and test reports: ABB Binder "Type approval Application – Low Voltage Electric Motor M3LP" dated 2008-08-27.

Additional test reports: Certificate no. NV HEL 09-1977 issued 2009-04-06, Certificate no. NV HEL-09-2955 issued 2009-08-20, & Certificate no. NV HEL 07-2986 issued 2007-11-21.

Tests carried out

Temperature, Overload, Overspeed, Insulation resistance, Winding resistance, No load



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Marking of product

The motors are to be marked with the following specifications:

- Manufacturers name and type designation
- Serial number and date of manufacture
- Voltage, frequency, rpm
- Power class (kW / kVA)
- Winding insulation class
- Degree of protection

Certificate retention survey

The scope of the retention/renewal survey is to verify that the conditions stipulated for the Type approval is complied with and that no alterations are made to the product design or choice of materials.

The main elements of the survey are:

- Inspection on factory samples, selected at random from the production line (where practicable)
- Results from Production Sample Tests (PST) and Routines (RT) checked (if not available tests according to PST and RT to be carried out)
- Review of type approval documentation
- Review of possible change in design, materials and performance
- Ensuring traceability between manufacturer's product type marking and Type Approval Certificate.

Survey to be performed every second year.

END OF CERTIFICATE